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EDITORIAL**BAND-PLANNING**

(Continued)

Last month we presented the deliberations and conclusions of the R.S.G.B. and European Societies of a band plan for phone and c.w. stations. As mentioned then, other Societies have been giving this matter a lot of thought and we here give the deliberations of the Americas in this regard.

The Radio Club of Argentina, which represents a fair cross-section of Latin-American opinion have adopted a band plan on a voluntary basis. The governing authorities in Argentina, also aware of the problem, endeavoured to make divisions mandatory, but when their proposed action was found to be invalid under their laws, the Radio Club of Argentina put forward the plan with the recommendation that it be adopted on a voluntary basis. It can be seen from this attempt that in some countries the governing authorities are perhaps not so co-operative with the Amateur representatives as in our own country. The band plan agreed to in Argentina was:

7000- 7050 Kc. Telegraphy only
7050- 7300 Kc. Telephony only
14000-14100 Kc. Telegraphy only
14100-14400 Kc. Telephony only
28000-28100 Kc. Telegraphy only
28100-30000 Kc. Telephony only

It may be seen that this plan did not follow the U.S.A. pat-

tern of a portion exclusively c.w. and the remainder c.w. and phone.

In the U.S.A., although it is at present mandatory for c.w./phone sub-divisions, the A.R.R.L. has seen fit to further explore the position in view of post-war changes and requests put to their Board of Directors. After several membership polls and further investigations by its Planning Committee, the matter was tabled before the Board of Directors' meeting.

The proposals were for an extension of the 3.5 Mc. band phone assignment from 3800 to 4000 Kc., extension of the 14 Mc. band phone assignment from 14200 to 14400 Kc., and continuance of 7 Mc. exclusively for c.w. The poll, which served merely as a guide to the Board, did carry all three proposals, but in their wisdom the Board asked the F.C.C. for only the 3.5 Mc. band increase as it realised that in the case of 14 Mc., more than local feeling was involved.

As yet, this plan has not come into operation, but it serves to illustrate how the problem is being tackled in other parts of the globe. We have given the European, North and South American "pictures" and next month will deal with our own plan.

—W. T. S. M.

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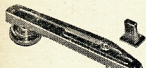
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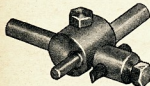
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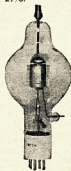
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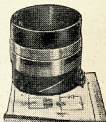
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Central 4311

A Filter Type S.S.S.C. Transmitter

BY L. W. EDWARDS,* VK7LE

Most Amateurs by this time will be familiar with what a single sideband suppressed carrier signal sounds like and the advantages to be gained by using such a system. However, the general opinion seems to be that it's all very complicated and involves a number of expensive and hard-to-get parts. This may be so up to a point, but any new technique always seems hard until one delves a little more deeply into the subject, when it is usually found that it is not so bad as it may first appear, and this is so in the case of the s.s.s.c. transmitter.

About all that is necessary is a good working knowledge of the process of amplitude modulation and a good junk box. The circuit of the transmitter described in the following article could be called a basic circuit for a filter type s.s.s.c. transmitter, and is adaptable to a wide variety of parts and tubes without affecting the working to any large degree.

The rig uses receiving parts and tubes right to the final amplifier, and an analysis of the circuit shows that it works like a receiver in reverse—instead of feeding r.f. in at one end and getting audio out at the other as in the receiver, we feed audio in and get r.f. out. We have in fact a triple conversion transmitter using the same basic principles as in the superhet receiver, the main difference being a conversion to a higher instead of a lower frequency, and the use of a balanced type of frequency converter or modulator to suppress the carrier. The transmitter described here has been in use for some time now and has proved very satisfactory in every way. A great deal of experimenting with various circuits was carried out, especially with the sideband filter, and the circuits shown seem to give the best all round results.

MICROPHONE PRE-AMPLIFIER

Referring to Fig. 1, all that is necessary here is a voltage amplifier to lift the output from the microphone to about 3 or 4 volts output and in this case a twin triode type 6CG6 was used, but almost any combination may be used here depending on the type of microphone used. It is advisable to limit the high frequency response to about 3 or 4 Kc. so that the sideband signal will not be too broad, and this can be done by adjusting the plate by-pass condensers. The low frequencies should also be cut if possible to assist the filter to separate the two sidebands—a low value of coupling condensers between stages helps here and it should be adjusted so that the lower audio frequencies start to fall off at about 400 cycles.

It is advisable to include a r.f. filter at the grid of the first tube to prevent any undesirable feedback. In some cases this may not be necessary, but in this case trouble was had with r.f. getting back into the pre-amplifier and causing all sorts of queer effects.

* Strickland Avenue, Hobart, Tasmania.

Since Single Sideband Suppressed Carrier transmissions have been authorised by the P.M.G.'s Department for Amateur use, quite a number of stations have appeared on the bands using this type of transmission.

Judging by the number of Amateurs heard contacting the s.s.s.c. stations, great interest is being shown in this method of emission, so to present the facts to the Australian Amateur as soon as possible, the article in this issue has been given first priority.

The two popular methods of generating a s.s.s.c. transmission will be described—the Filter System by VK7LE appears herewith, and the Phase Shift method by VK4FN will appear next month.

MODULATOR NO.1

This part of the circuit consists of a "ring" type modulator and together with the sideband filter is the heart of the rig, as it is here that the sidebands are generated and the carrier suppressed. The degree of success attained with the rig depends a great deal on the correct adjustment of this modulator and fortunately the circuit is quite simple to get working correctly.

In this case the circuit worked OK first time with 6H6 tubes picked at random and not tested for balance. The only alteration to the original circuit was the addition of an extra balancing pot, P2, which gave a little better carrier suppression. With tubes checked for balance, the carrier suppression is so near to complete that only the faintest trace is heard with the receiver side by side with the transmitter and the r.f. gain wide open.

The input and output transformers T1 and T2 were souvenired from a wrecked Japanese carrier telephone system, but almost any transformer with high impedance primary and low impedance c.t. secondary should be quite satisfactory for T1, such as single plate to 500 ohm line c.t. or single plate to p.p. grids Class B with loading resistors across each secondary winding. A push pull cathode coupled circuit would perhaps have possibilities for replacing T1.

The choice of the output transformer T2 is a little more critical and if possible should have a 1 to 1 ratio designed to work at a low impedance. It should have two separate primary windings so that the balancing pot, P1, can be inserted between the two halves, and not too much loss at the sideband frequency—that is for 3 Kc. higher than the oscillator frequency (13 to 16 Kc.). The low frequency response is not important as it only has to pass this upper sideband.

The P.M.G. type 4012A transformer should be ideal for this position, it being a balanced wound type with split windings and a good frequency response.

The modulator circuit should work at a fairly low impedance—in this case 600 ohms—and it is recommended that this impedance be used if possible as the filter shown is designed to work into this value. However this point is not very critical and the performance should not suffer very greatly by using different impedances.

A carrier suppression of more than 60 db can be obtained when the circuit is properly balanced, but in some cases it may be necessary to compensate for stray capacity unbalance in the transformers as well as resistance unbalance, and this can be done by connecting a small variable condenser across one of the primary windings on the output transformer (shown dotted) or one of the input transformer windings, or both.

A variety of tubes may be used in this modulator. 6H6s do quite a good job and any pair of twin diodes, connected to form four similar diodes, may be used. Germanium diodes or copper oxide rectifier units should also work quite well providing all four units have similar characteristics.

The 12.5 Kc. carrier for the ring modulator is supplied from a single tube oscillator of conventional design, T3 consists of a speaker output transformer with c.t. primary, the iron core being removed and the primary loaded with sufficient capacity to bring the frequency to approximately 12.5 Kc. In this case a transformer with a 500 ohm and a 2.3 ohm secondary was available and this worked very nicely.

The 2.3 ohm winding was used to feed a little 12 Kc. around the filter to insert a carrier into the transmission if desired. T3 controls the amount of carrier injected and enables the rig to operate as a normal a.m. transmitter with only one sideband, or as a single sideband suppressed carrier rig. If a suitable transformer having a 500 ohm winding is not available for T3 a couple of hundred turns wound on top of the voice coil winding of a normal speaker transformer should be quite satisfactory. The voltage output from this winding should be about 5 volts. The variable condenser C1 is used to adjust the frequency of the oscillator to the correct point on the filter attenuation curve.

"Now why," you ask, "is this oscillator tuned to 12.5 Kc.?" Well, it all depends on the design of the sideband filter, and in this case, after all the experimenting, the filter finished up with a very sharp cut-off at 12.5 Kc. and so the oscillator was adjusted to work at this frequency. A different frequency can, of course, be used providing the filter is designed for it; a lower frequency will place sidebands generated in the second modulator closer together, and makes them harder to separate, while a higher frequency, although making the sidebands in the next modulator further apart, makes the job of building the filter to have a sharp cut-off more difficult. A frequency of from 10 to 15 Kc. seems to be about optimum for the equipment available to the average Ham.

SIDE BAND FILTER The purpose of this filter is to separate the two sidebands, passing on the one required and blocking the other. In this case the upper sideband of from 12 to 15 Kc. is the one wanted and so a simple high pass filter with a fairly sharp cut-off will be quite satisfactory.

The filter described here is designed from information given in Terman's Radio Engineer's Handbook, and has a good sharp cut-off at 12.5 Kc. with an attenuation of about 28 db in 700 cycles. The insertion loss at the wanted sideband frequencies is approx. 2 db and the attenuation at the unwanted sideband frequencies is approx. 50 db. Most articles on the subject of filters for s.s.s.c. transmitters specify band pass filters for separating the two sidebands, but this was not found to be necessary providing the high frequencies are cut in the audio stages, and providing there is not too much second harmonic in the 12.5 Kc. oscillator. Too many highs in the audio will give a wide signal on the band (but still not as wide as most a.m. signals), and too much second harmonic in the 12.5 Kc. oscillator will give a spurious carrier about 12.5 Kc. away from the radiated signal. This, however, can be eliminated as described later.

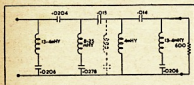


Fig. 2.—12.5 Kc. High Pass Filter.

The filter (Fig. 2) is designed to work into an impedance of 600 ohms, but this is not critical, and slightly higher or lower values may be used without affecting the overall performance very greatly. The coil and condenser values are likewise not critical but the closer the values used to those shown, the better will be the results.

The coils are wound on iron dust bobbin type cores giving a high Q and thus a sharp peak at resonance.

These are obtainable from R. W. Steane & Co. The side pieces are type No. 408 and the centre piece type No. 407.

If the winding instructions are followed closely the inductance obtained will be sufficiently close to the value shown. The wire gauges shown should be used and the turns layer wound with each turn fitting neatly alongside the next. No insulation should be used between layers and no insulation used on the cores themselves, the cores being non-conducting. A small hole is drilled through one coil to bring out the inside end of the coil, and the core pieces, which comprise two cheeks and one spacing piece, are held together with a small brass screw; iron screws should not be used.

13.4 Millihenry Inductance—

410 turns 26 gauge B. & S. Enamel.

8.25 Millihenry Inductance—

316 turns 26 gauge B. & S. Enamel.

4 Millihenry Inductance—

217 turns 24 gauge B. & S. Enamel.

If trouble is experienced with second harmonic from the 12.5 Kc. oscillator, another section resonant at the harmonic frequency of 25 Kc. should be inserted as shown dotted in Figure 2. The inductance of the coil shown should be 6.5 millihenries, made up as follows:

6.5 Millihenry Inductance—

272 turns 26 gauge B. & S. Enamel.

The condensers shown should, if possible, be checked on a capacity bridge or on a "Philoscope." Don't rely on marked values, they can—and do—vary quite widely. The values required will probably have to be made up with several condensers in parallel and if a means of checking the values accurately is not available, then the following method can be used for tuning each separate section of the filter to the required frequency.

A calibrated audio frequency oscillator and a high resistance output meter or v.t.v.m. are required. The coil and condenser under test are disconnected from the rest of the circuit and connected in series across the output of the audio oscillator with a resistance of 1,000 ohms or so also in series. The meter is connected across the coil and condenser combination (excluding the resistance) and the audio frequency is

varied until a sharp dip occurs in the meter reading. If this dip does not occur at the correct frequency, the value of the condenser should be adjusted until it does so.

For the Ham constructor this method has the value of compensating for reasonable departures of the inductance from the required values. For the 13.4 mH. and 0.02 uF. combination, the dip should occur at 9.73 Kc., and for the 8.25 mH. and 0.028 uF. combination, it should occur at 10.45 Kc.

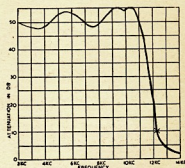


Fig. 3.—Response Curve 12.5 Kc. High Pass Filter.

In assembling the filter, care should be taken that the inductances are at least 1" away from any metal, otherwise the inductance value and the Q may be altered. A small wooden box is recommended with the components arranged for a minimum coupling between input and output and between coils. If the instructions are followed closely an excellent filter will result, with a frequency attenuation curve as shown in Fig. 3. The correct frequency for the first oscillator should be at the point marked X on the curve.

The addition of the 25 Kc. section, for eliminating the second harmonic of the 12.5 Kc. oscillator, affects the curve only slightly at frequencies below 12.5 Kc., but it introduces a loss of 31 db at the second harmonic frequency and a loss of 20 db 1 Kc. either side of this frequency.

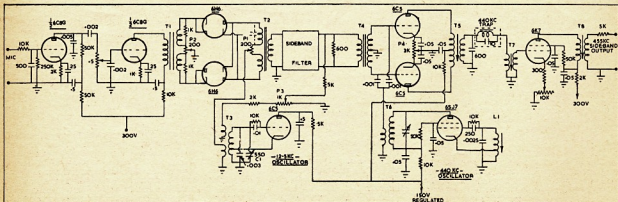


Fig. 1.—Audio Pre-Amplifier, Modulator No. 1, Sideband Filter, Second Modulator, 440 Kc. Trap, reading from left to right, with 12.5 Kc. First Oscillator and 440 Kc. Second Oscillator at bottom of diagram.

THE SECOND MODULATOR

The purpose of this stage is to increase the frequency of the sideband signal from the first modulator, and it consists of a 440 Kc. oscillator, balanced modulator and a straight i.f. amplifier channel. The incoming sideband of from 12.5 to 16 Kc. modulates the 440 Kc. oscillator, producing two sidebands of approximately 424 to 427 Kc. and 453 to 456 Kc. The 440 Kc. carrier is balanced out in the modulator and the two sidebands are passed to the i.f. amplifier channel which is tuned to the upper or to approx. 455 Kc. The selectivity of the i.f. channel is quite sufficient to separate these two incoming sidebands and no extra filter is needed, but a trap circuit is used to eliminate any 440 Kc. carrier which may leak through.

The oscillator is a normal electron coupled type with a high C grid circuit and has proved to be very stable. It must be remembered that all oscillators used in this transmitter must be rock steady, otherwise the chap on the receiving end is liable to have a merry time keeping his local carrier right on the nose.

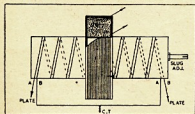


Fig. 4.—Construction of T5 and T9 S.S.S.C. Exciter. See text for details.

A number of various frequencies may of course be used for this second modulator, depending on the parts available, and a crystal oscillator would be the ideal arrangement. The choice of tubes for this stage is quite wide and a number of combinations may be used without greatly affecting the performance. It is, of course, necessary to have two similar type tubes for the modulators and a twin triode should fill the bill quite nicely.

The input transformer T4 can be any fairly good quality transformer with a

single primary to p.p. grids. The loss at the incoming sideband frequency of 12.5 to 16 Kc. should not be too great and the old time Ferranti types AF3C and AF5C ought to work quite well.

The modulator output transformer T5 is a special balanced wound job constructed as follows: The former is a standard commercial short wave coil former of approx. $\frac{3}{4}$ " diameter and $1\frac{1}{2}$ " long, tuned with a powdered iron slug. The commercial coil windings are removed and the former close wound for its entire length with two 32 B. & S. enamel wires side by side. The windings are connected in a push-pull arrangement as shown in Fig. 4. The secondary winding is tuned to 455 Kc. by means of the iron slug and consists of approximately 70 turns of 32 B. & S. enamel wire scramble wound on a cardboard bobbin $\frac{1}{4}$ " wide and $1\frac{1}{2}$ " diameter with a centre hole large enough to just slip over the wound coil former. This bobbin is placed centrally over the primary winding and loaded with sufficient capacity to tune to 455 Kc. with the slug approximately half way in. The whole unit is placed in a shield can obtained from an old b.c. receiver.

The 440 Kc. trap consists of half a 455 Kc. i.f.t., loaded with a small capacity so as to tune to the oscillator frequency; it should be well shielded. Transformers T7 and T8 are normal 455 Kc. i.f.s. and the amplifier is a straight i.f. channel, the usual comments on i.f. amplifier technique will, of course, apply. The 440 Kc. oscillator grid coil consists of a $\frac{3}{4}$ " diameter slug tuned former (similar to T5) with 70 turns of 26 B. & S. enamel close wound and tapped 22 turns from the earth end. The coil is placed in a shield can and tuned with a fixed capacity of 0.0025 uF. or so until the required frequency is reached, the slug providing the fine adjustment. The output transformer T6 is an old type i.f. transformer with the trimmer removed from one winding.

The frequency of 440 Kc. for the second modulator was chosen for two reasons, the first being that readily available parts could be used, and the second being that the sideband output is the same frequency as the station receiver i.f. channel, which is very handy for checking and tuning the output from this modulator. There is, however, one

small drawback here if the rig is to be used for duplex working, unless everything is well shielded the receiver is inclined to choke up every time the operator speaks. Proper shielding will, of course, eliminate this.

THE THIRD MODULATOR The arrangement here (Fig. 5) is almost identical with the No. 2 modulator, the purpose being to convert the 455 Kc. sideband to the frequency on the band desired. Once again a balanced modulator is used to generate two sidebands without a carrier, a straight r.f. amplifier channel separating the two sidebands and bringing the level of the wanted sideband up sufficiently to drive a single 807 Class A. Excellent shielding of the various stages should be observed here because the gain is quite high and poor

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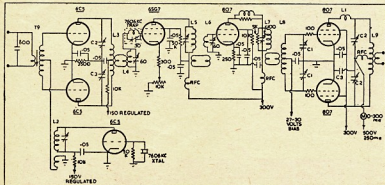


Fig. 5.—Third Balanced Modulator, fed by 7606 Kc. Crystal Oscillator, 7606 Kc. Trap, and 807 Driver Stage, giving output on 7141 Kc. Sideband, followed by Push-Pull 807 Final. C1—70 pF. per sect. split stator, C2—100 pF. per sect. split stator, C3—0.005 uF. high voltage rating, L1—Parasitic Suppressor of 6 turns of 16 g. $\frac{1}{4}$ " dia.

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shielding may ruin everything. The 807 plate tank circuit is, of course, kept well shielded from the lower level stages.

The choice of tubes for this stage is once again quite broad, the same remarks applying here as for No. 2 modulator. The input transformer T9 is of the same construction as T5 in modulator No. 2. Coils L2, L3, L4, L5 and L6 and the 7606 Kc. trap circuit are all wound on $\frac{1}{2}$ " diameter bakelite formers and are tuned with the old type 13-plate tuning condensers having a maximum capacity of 60 pF. The iron slug formers as used for the 440 Kc. oscillator grid coil, etc., should be excellent here with fixed capacities substituted for the 60 pF. variables, the tuning being done by the iron slug. The number of turns on these coils is governed by the band on which it is desired to operate and the dimensions given are for 7 Mc.—

L2—Plate winding 23 turns, spaced 24 turns per inch. Output winding 14 turns, spaced 24 turns per inch, and separated $\frac{1}{2}$ " from cold end of plate winding. Wire size, 24 B. & S. enamel.

L3—30 turns centre tapped and with 2-turn link at centre. Turns spaced 24 turns per inch. 24 gauge B. & S. enamel.

L4, L5, L6—28 turns, spaced 24 turns per inch. Link coils, two turns $\frac{1}{2}$ " from cold end of coil. Wire size, 24 B. & S. enamel.

L7—22 turns, $\frac{11}{16}$ " diameter, winding length $1\frac{1}{2}$ ", 16 gauge B. & S. enamel.

7606 Kc. Trap—26 turns, spaced 24 turns per inch.

The oscillator frequency for this modulator is determined by the operating position on the band and should be this frequency plus or minus the incoming sideband frequency. If it is desired to operate on 7100 Kc., then the oscillator should have a frequency of 7100 Kc. plus or minus 455 Kc., that is 7555 Kc. or 6645 Kc. A good stable v.f.o. may, of course, be used here if it is desired to move around the band. In this case a 7606 Kc. crystal was available which put the lower sideband on approx. 7141 Kc. Condensers C2 and C3, which tune the modulator output, should be split stator of 70 pF. per section, but in this case a split stator type was not available and separate condensers were used. This made the balancing of the modulator and thus the carrier suppression good, but made them a little harder to adjust, both condensers having to be tuned to the wanted sideband frequency so that they both have approx. the same capacity.

The 6SG7 amplifier gives plenty of output to drive the 807 to about 10 watts output. Because the 807 runs Class A, voltage only is needed to drive it and its operating conditions are similar to the 807 Class A audio amplifier.

If the plate circuit is not loaded continuously by the next stage, then a load resistor must be placed across the output tank. A resistor of 4,000 ohms was found to be satisfactory, but the available output from the stage is dropped to about five watts peak. However, this is still plenty to drive most power tubes in Class B or AB.

All the by-pass and earth leads in this stage must be brought to the same earthing point if good stable results are to be obtained. No trouble was experienced with parasitics, but a suppressor was placed in the plate lead "just in case." This suppressor consists of 10 turns of 20 gauge wire wound on top of a 100 ohm carbon resistor.

If it is desired to put the exciter on the air without any further stages, then the loading resistor will not be necessary as the aerial will load the 807 quite satisfactory.

THE FINAL AMPLIFIER

From here onwards it is only a matter of adding amplifiers to get the required power, the only stipulation being that they run as linear amplifiers—Class C amplifiers are out. The choice of tubes rests with the individual, but beam power tubes seem to be the best, being easy to drive and requiring no neutralising. Class B triodes should work quite well but require more driving power. Steer clear of zero bias tubes such as the 809—they may look good on paper, but because of the zero bias, they are open to all sorts of oscillations—I know—I tried them, and I nearly gave radio away on that occasion.

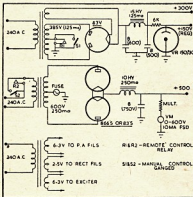


Fig. 6.—Complete Power Supplies for Single Sideband Suppressed Carrier Transmitter.

An excellent set-up is a pair of 807s running class AB, with fixed battery bias of about 27 volts, 500 volts on the plate and 300 volts on the screens. The circuit shown is quite conventional and should need no further comment.

The regulation of the plate supply voltage should, of course, be good as the plate current rises from about 80 Ma. with no signal to about 250 Ma. on peaks. The power output is about 655 watts, which is the equivalent of 500 watts of normal a.m. phone, and all this with only 40 watts of unmodulated d.c. input.

The amplifier does not work as a normal linear r.f. amplifier, there being no carrier. It works rather as a normal audio amplifier, the frequency of operation being the main difference. The screens of the 807s are fed from the 300 volt exciter supply.

POWER SUPPLY Figure 6 needs no comment except to repeat that the final plate supply to the final amplifier should have good regulation, this means mercury vapour rectifiers and choke input to the filter. The exciter needs 300 volts at 120 Ma. and this includes the current drawn by the regulator tube and the 807 screens. If the 807 screens are fed from this supply, then provision should be made for bringing on both high tension supplies simultaneously so that there will at no time be screen voltage without plate voltage.

The meter and resistor shown across the output of the 500 volt supply does double duty as bleeder and voltmeter, the meter being 10 Ma. full scale and calibrated to read 600 volts at full deflection.

TUNING PROCEDURE

The only equipment necessary for tuning the rig is a receiver capable of tuning to the third modulator with an S meter using 455 Kc. i.f.s. and oscillator frequency and to the radiated signal frequency.

Connect a probe through a condenser of about 50 pF. to the 1st i.f. grid which enables the receiver to be used as a selective and highly sensitive v.t.v.m.

(1) First check the pre-amplifier output, which should deliver about 3 volts across the secondary of T1.

(2) Check the 12.5 Kc. oscillator to see that it is oscillating and tune it to approx. 12 Kc. by listening to the output and varying the fixed capacity across the grid circuit. If an audio oscillator is available it would help greatly for adjusting the frequency.

(3) Now move along to the 2nd modulator, disconnect the primary of T2 from the filter or pull out the 12 Kc. oscillator tube, and place the receiver probe at the output of the 440 Kc. oscillator T6. Now adjust L1 until the oscillator frequency is the same as the receiver intermediate frequency as indicated by a maximum reading on the S meter. Make sure nothing overloads in the receiver or a false reading may be obtained.

(4) Move the probe to the secondary of T5 and tune T5 for maximum output—the fixed capacity across this coil may have to be varied to bring it to resonance.

(5) Move the probe to the output side of T8 and line up T7 and T8 in the normal way for an i.f. channel. Leave the trap circuit tuning until later.

(6) Re-connect T4 to the filter or replace the 12 Kc. oscillator tube and turn up the carrier injection pot. P3 to maximum.

(7) With the probe still across the output of T8, carefully screw in the slug in L1 (that is, reduce frequency) until another smaller peak is noticed on the S meter—this should be the upper sideband due to the 12 Kc. carrier modulating the 440 Kc. oscillator, and the level of this signal should vary as P3 is varied. Now leave L1 set in this position.

(8) Peak up this sideband signal by a further adjustment to T5, T6, T7 and T8, making sure that the signal can still be varied by P3.

(9) Now turn P3 right off. The chances are now that the signal will not drop right to zero due to some 12 Kc.

leaking through the filter from modulator No. 1. The next thing is to set the frequency of the 12 Kc. oscillator at the correct position on the filter attenuation curve. This is done by unbalancing the balance pot. P1 so that the signal at the output of T8 rises slightly. Adjust the receiver i.f. gain until the S meter reads about S5 and increase the frequency of the 12 Kc. oscillator by means of C1 (reduce capacity) until the S meter rises to a maximum. Now increase the capacity of C1 until the S meter drops about two S points and this will mean that the 12 Kc. oscillator is correctly located on the filter curve.

The above procedure may be reversed in some cases, depending on the frequency of the 12 Kc. oscillator before adjustment. The fixed capacity in parallel with C1 may have to be varied, but the frequency can be set roughly by ear and the variable condenser C1 should then give sufficient variation.

(10) With the probe still at the output of T8 balance pots. P1 and P2 are varied for minimum signal, making sure that the audio gain control is right off. A good sharp minimum point should result when the circuit is properly balanced.

(11) Check again to see that a signal is obtained when the carrier pot P3 is advanced and if everything is OK. A single sideband suppressed carrier signal at the receiver intermediate frequency may be heard by speaking into the microphone. To check on the correct working of the first two modulators, this signal should be quite readable by injecting a carrier into the receiver from the b.f.o., remembering that a large amount of carrier is needed in relation to the incoming signal.

(12) The receiver probe should now be placed on the receiver aerial terminal and the receiver tuned to the oscillator in modulator No. 3 to check that it is oscillating correctly. Tune L2 for correct operation.

(13) Now turn up the carrier injection pot. P3 and tune the receiver to approx. the position that the radiated signal should be on the band. Place the receiver probe at the output link of L3 and tune the receiver until a strong carrier is heard which varies in inten-

sity when P3 is varied. Now tune T9 and C2 and C3 for a maximum signal, making sure always that the signal in the receiver varies when P3 is varied and that nothing is overloaded in the receiver as this may give a false reading.

(14) Now move the probe to the output link of L5 and tune L4 and L5 to resonance or for maximum signal on the S meter.

(15) The receiver probe should now be loosely coupled to the 807 plate tank or removed from the receiver completely, and L6 and L7 tuned to resonance, making sure that the signal will still vary with P3.

(16) The next step is to balance the modulators, and modulator No. 2 is balanced by leaving the receiver probe near the 807 tank and turning the carrier control right off. A low level signal will probably still be heard due to a slight amount of carrier getting through from modulator No. 1 and approx. 12 Kc. either side of this signal will be heard two other carriers which will not vary when P3 is varied. One is due to a slight amount of second harmonic from the 12 Kc. oscillator beating with the 440 Kc. oscillator and so on through the 7.6 Mc. oscillator, and may not occur at all in some cases. The other is due to unbalance in the 440 Kc. modulator stage letting some 440 Kc. carrier through to beat with the 7.6 Mc. oscillator.

Now tune to the one that varies when balance pot. P4 is varied and adjust P4 and the 440 Kc. trap circuit to give a minimum signal—this should cause the signal to almost entirely disappear. If the signal, due to the second harmonic in the 12 Kc. oscillator, is troublesome, then it may be necessary to insert a 25 Kc. trap section in the filter. Now tune the receiver to the 7.6 Mc. oscillator and adjust the trap circuit in modulator No. 3 for minimum signal—this signal should almost completely disappear. If C2 and C3 are made up of separate condensers and are not split stator, then adjusting one of these very slightly will give a further suppression to the 7.6 Mc. carrier.

Now the rig is all set to go on the air if desired, with about 10 watts peak output and should give quite a good account of itself.

The Final Amplifier, with its p.p. 807's Class AB₂, is quite straight forward and no trouble should be encountered in getting it working correctly. Bias is supplied from three 9-volt bias batteries, but any well regulated source of about 27 volts will be quite satisfactory. No real trouble was experienced with parasitics, in contrast with the case of the Class B 809's. The 100 ohm resistors in each grid and the suppressor choke consisting of 6 turns of 16 gauge B. & S. enamel, $\frac{1}{8}$ " diameter, in one plate lead cleaned up all traces of stray oscillations. Beware of similar r.f. chokes in both plate and grid circuits.

The grid tank L8 consists of 32 turns spaced $\frac{21}{32}$ " on a 1" former and tuned by a small 70 pF. split stator condenser. The plate tank L9 has 24 turns of 12 gauge solid copper, $\frac{21}{32}$ " diameter, with a winding length of $4\frac{1}{2}$ " tuned by a 100 pF. per section split stator condenser, double spaced. When tuning this stage before coupling to the aerial, it is ad-

visable to place a dummy load across the tank circuit. This may be a heavy duty 5,000 ohm resistor from plate to plate, or a 100 watt lamp tapped four turns each side of the centre of the coil.

To tune the final, advance the carrier control P3 and tune the grid circuit to resonance, indicated by a rise in plate current—increasing the drive until the plate current reads about 180 Ma. Now tune the plate circuit to resonance, indicated by a maximum brightness of a pea lamp coupled to the tank or by maximum current through the dummy load. Now remove the load and couple up the aerial and adjust the coupling and aerial tuning until the maximum aerial current is had with the smallest possible plate current.

If an oscilloscope is available for checking the transmitter, it will simplify the adjustment quite a bit. The 'scope is connected to the final tank with a link of a few turns and if the carrier is completely suppressed there should be no pattern except the horizontal trace when the rig is switched on. When the operator speaks a series of peaks and troughs resembling the normal a.m. phone envelope should result, and return to zero when the operator stops speaking. By advancing the carrier control P3 the pattern will be that for a normal unmodulated carrier and on introducing some speech, a similar envelope pattern to normal a.m. phone will result, except that the carrier cannot be cut off by overmodulation.

It has been found that a small amount of carrier, transmitted along with the sideband, is a great help in receiving the signal, as it gives the chap on the receiving end something to zero beat. The amount of carrier need only be very small, otherwise it tends to interfere rather than assist in receiving the signal.

"Acknowledgments go to "QST" for a great deal of information contained in this article and those interested are recommended to read articles in the January, 1948, and March, 1949, issues.

TECHNICAL COLLEGE LECTURES

A refresher course on Frequency Modulation and Pulse Modulation has been arranged by the Victorian Division with the Melbourne Technical College.

This series of eleven Lectures will be given on THURSDAY evenings at 7.30 p.m. at the Radio School commencing on 8th September and concluding on 24th November. The fee for the complete course is £1/1/- and applications for enrolment (with fee enclosed) will be received by the Administrative Secretary of the Victorian Division, 191 Queen St., Melbourne, up to the 25th August.

Marked interest in these Lectures has been shown and special arrangements have been made to enable W.I.A. members to participate in this unique opportunity.

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AMATEURS MAINTAIN COMMUNICATIONS

Hunter Valley Emergency Communication Network

BY HAROLD WHYTE, VK2AHA, AND VIC HOLMES, VK2AKP

Here is a complete report on the vital part played by the Hunter Valley Radio Amateurs in maintaining emergency communication during probably the worst floods in New South Wales' history, and compiled from the logs of the main stations participating.

The real Amateur Emergency Network began on Sunday, 19th June, although as early as Friday, 17th, when the flood waters had not reached their height. VK2TY, Bob Best, of Lochinvar, called Newcastle on 10 and 40 metres with urgent flood warnings for Newcastle Broadcast Stations. VK2BZ, H. Davies, was contacted on 10 metres at 1845 hours. Throughout Saturday, 18th June, VK2TY and VK2XQ, John Trill, of West Maitland, were standing by in case of emergency.

At 1145 hours on Sunday, 19th June, VK2AKP, Vic Holmes, of East Maitland, put out an emergency police call on 7162 Kc. "East Maitland isolated and requires immediate communication with West Maitland Police."

At the Police Radio Waratah VKG3, the operator on duty, incidentally an Amateur (Fred Meyer, VK2AGY), immediately put a call through his network to West Maitland Police requesting them to contact VK2XQ, West Maitland, and get him on the 40 metre band for communication between West and East Maitland.

Many Amateurs also heard this emergency call and immediately called Vic, however the first station to contact VK2AKP was VK2AIK, C. Horne, of West Wyalong, who then contacted VK2ADT, Jack Till, of Cessnock, Jack relaying to VK2YL, Harry Hawkins, who telephoned West Maitland.

VK2AHA, Harold Whyte, of Mayfield, also heard the emergency call and called VK2AKP, but VK2AIK made first contact, so VK2AHA telephoned Broadcast Station 2KO, Newcastle, who immediately broadcast the call to VK2XQ and listeners in Maitland area and Broadcast Station 2HR, West Maitland.

At 1210 hours, only a few minutes after the original call was transmitted from VK2AKP, VK2XQ, of West Maitland, was on the air on code and in contact with VK2AKP and VK2AHA who was relaying VK2XQ as the b.f.o. at VK2AKP was out of action. It might be pointed out at this juncture that VK2AKP had his transmitter down for a re-build, and on that Sunday morning he built the temporary transmitter we all heard, from limited parts available and got it on the air in the emergency. His gear was drenched with rain, the crystal at times refusing to oscillate. The power supply came from a dis-used broadcast receiver chassis, after all unnecessary valves had been removed. Vic was on the air with a whole 15 watts. A short time after the initial

East to West Maitland contact had been established, VK2XQ got his phone going.

At VK2AHA, Mayfield, communication was maintained with Police Wireless Waratah VKG3 on 1710 Kc, as well as VK2AKP, VK2XQ and VK2TY on 7162 Kc. This continued until 2200 hours Sunday night, Police messages being passed. VK2TY was relaying between VK2AKP and VK2XQ, and VK2NL, Thornton, to VK2AHA from VK2AKP when the skip had set in during the late evening.

At Midday Sunday, communication between Cessnock and Newcastle was established via VK2ADT, VK2YL, and VK2AHA. As the normal telephone service was out of action, due to the flood waters, the above stations were requested to take press from Cessnock for Newcastle. This could not be done as special permission had to be granted by the Radio Inspector for such traffic to be handled via Amateur Radio.

The Newcastle Radio Inspector was in the flood area himself and could not be contacted so VK2AHA sought permission from Sydney Radio Inspector through Amateurs VK2AKA, VK2ANF, VK2WF Sydney.

Station VNS Radio Inspector, Sydney, was contacted at 1630 hours and VK2CI, G. Kempton, of Merewether, was granted permission to take Press from Cessnock for Newcastle.

VK2CI took call board messages from Cessnock.

The Press was passed by VK2ADT and VK2CI on Sunday evening on 80 metres.

Urgent messages for Hunter District Water and Sewerage Board were passed at 1450 hours by VK2AHA to Cessnock VK2ADT. No news of sub-stations in flooded coalfields area was known as all lines to Cessnock were out. Much co-operation was received from VK2CS Lionel Swain (President W.I.A. Sub-Branch, Newcastle), a water Board engineer.

The replies to above messages were received from VK2YL, Cessnock, by VK2AHA on 10 metres on Sunday night and telephoned to VK2CS for the Water Board.

All through Sunday, marvellous work was done by the following Amateurs in keeping the frequency clear of interference: VK2WH, VK2AIK, VK2WI, VK2ANF, VK2QJ, VK2AKA, VK2ML, VK2WF, VK2XO, VK2HZ.

The important job could not have been accomplished by the Network Stations had it not been for these Amateurs consistently clearing the frequency.

Monday, 20th June, was without any doubt the busiest day the Emergency Network encountered. No fewer than 140 Police messages were passed by VK2AKP and VK2AHA to and from VKG3, all between 1145 hours and 2350 hours, an average of almost 12 messages per hour. (DJ contest memories were revived at VK2AHA.)

Before the above session commenced on Monday morning, VKG3 advised VK2AHA and VK2AKP that the Am-

ateur Emergency Network would not be required, but by 1145 they requested it be re-opened again as traffic via their channels and lines available was so heavy it would be impossible to handle it. Wonderful help was given to VK2AKP by the East Maitland Police. Vic was provided with typist and runners from his location to Police, although very often he and his son personally delivered messages. At VK2AHA every assistance was given by the operators at Police Wireless VKG3, all of whom are Amateurs, namely VK2TO, the O.I.C. VK2AGY, VK2NL.

The hardest job at VK2AHA was to write fast enough, as all operating on Monday was done solo. In order to get the messages down on paper, Ham abbreviations had to be resorted to, it was impossible to write them long hand. In addition to taking down messages, Logs at VK2AHA and VK2AKP were kept up, how we don't remember.

Through VK2MK, Lance Elpinstone, Cessnock, a couple of messages were passed from Broadcast Station 2CK to East Maitland Police via VK2AKP and VK2AHA.

VK2NL, Leith Squires, of Thornton, and VK2ADT were very helpful in relaying from VK2AKP, particularly when the skip was setting in late in the evening. The "band policemen" mentioned earlier were on the job right throughout, keeping the channel clear of interference, which was most important, and added speed to the handling of urgent supply messages.

Tuesday, 21st June, the Amateur Emergency Network continued. Early in the morning it was not required, however, but by 0940 it had re-commenced with the passing of the first message at 1000 hours. The day's traffic was down considerably but the network was very important as communication was maintained all the time right up till 1800 hours, when the Emergency Network concluded. During the day about 40 messages were passed—23 being important ones.

The real value of the Network on Tuesday was not in the amount of traffic handled, but the fact that it was in operation all the time and during a couple of critical periods, firstly when line communication failed completely, and secondly when West Maitland Police receiver developed a fault.

All traffic passed through VK2AKP and VK2AHA to VKG3, and return, except for a few messages from VK2TY from Broadcast Station 2HR, and Police for listeners to Broadcast Stations 2KO and 2HD, Newcastle.

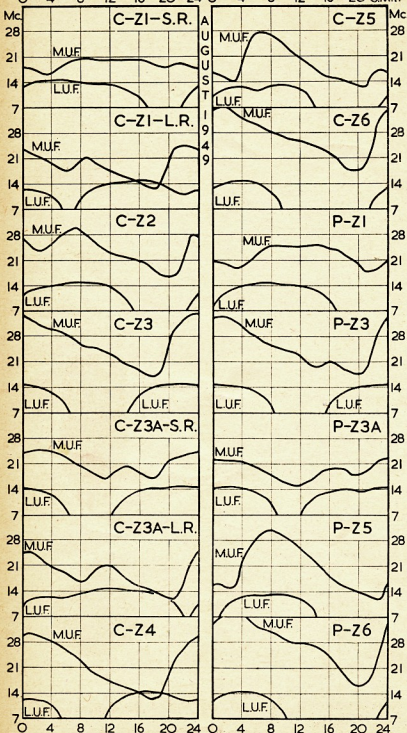
An excellent job was done by VK2TY who was requested from VKG3, via VK2AHA, to proceed to West Maitland Police Station and service faulty receiver. This was carried out successfully by Bob and during his absence from VK2TY, Keith Rudkin, VK2DG, operated his station. Keith, by the way, was on duty at 2HR for the entire period and phoned VK2TY's messages through to the Broadcast Studio.

Broadcast Station 2KO, Newcastle, and 2HR, Maitland, helped immensely in broadcasting numerous messages to listeners in the danger area and maintained an all night service during the critical periods. Messages, warnings,

(Continued on Page 10)

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

O 4 8 12 16 20 24 O 4 8 12 16 20 G.M.T.



AMATEURS MAINTAIN COMMUNICATIONS

(Continued from Page 9)

etc., passed by the Amateur Emergency Network, were broadcast by these stations.

The final message to officially conclude the Amateur Emergency Network came at 1800 hours Tuesday and thanks go to VK2JQ, Rev. G. A. M. Nell, of Crookwell, N.S.W., and VK2ADT, of Cessnock, who relayed it for VK2AKP and VK-2AHA, as skip was making direct contact very hard. In the opinion of VK2AHA and VK2AKP, that last message was the most important of the 180 odd messages passed via the Network, "we had had it," and some good sleep was the order of the day.

The filaments of Vic's transmitter were never off from Sunday morning till Tuesday night and likewise VK-2AHA's receivers, the bed in the shack being very convenient.

The Newcastle District Radio Inspector was on the job, and supplied me with an additional receiver, which took the place of my broadcast receiver that had been commandeered early in the piece to use on VKG3 Police Radio, Waratah 1710 Kc.

Another Radio Amateur who did a wonderful job was VK2ADX, Jack Brand, of Lorn, West Maitland, the City Engineer, who was on the job throughout the entire danger period and afterwards Jack was directing operations to prevent any more "break throughs" of river banks, filling and stacking sandbags, checking of bridges, etc. for damage. Jack was given authority to co-operate Hams to assist in emergency, but was unable to operate his own gear owing to more important duties.

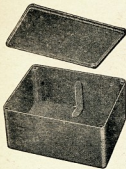
On behalf of Vic Holmes, VK2AKP, and myself, VK2AHA, we would like to thank all who assisted in the Amateur Emergency Network, call signs of some we may have missed during the busy periods, but we could hear them in there clearing the interference for us, thanks OM's.

A few things were learned from the experience, the main being that the Hunter Valley should have an Emergency Amateur Network organised immediately, in case of future disasters, whether it be floods or bush fires.

The nomination of a control station at the emergency area would be an advantage, provided the frequency chosen for such a network was unaffected by skip distance and all stations in the network were audible, but in our recent experience such was not the case, hence much relaying and duplication was absolutely necessary, hence no one single control station could have controlled things.

We mentioned before the transmitter used at VK2AKP, 15 watts, 6V6 oscillator, 807 final. At VK2AHA the transmitter was 100 watts to an 813, Class B modulated, although n.b.f.m. was used all day Sunday. All equipment at both stations being home made. Another point worth mentioning is, although Vic, VK2AKP, was putting out an excellent signal on 40 metres, the high noise level and skip prevent direct reception at Police Station VKG3, and also at VK2AKP only one receiver was available, hence he was unable to hear VKG3 direct.

BIG PRICE REDUCTIONS ON EDDYSTONE COMPONENTS



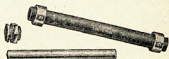
Cat. No. 650

● Shown on this page are just some of the Eddystone Components featuring in a big after-stocktaking clearance. Here is a wonderful opportunity to obtain world-famous Eddystone Components at greatly reduced prices. They won't last long—so don't delay!

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Results of the 1949 Trans-Tasman Contest

And so another Trans-Tasman is completed—this year with much greater interest and a larger number of entries. Outstanding scores were turned in by ZL1MB in the C.W. Section for the second year in succession, by VK2PA in the Open Section, and ZL3HC in the Phone Section. The ZLs were particularly scarce due to a Convention being held in Wellington. The number of logs forwarded was somewhat disappointing in view of the large number of both ZLs and VKs known to have completed a number of contacts. To those who sent in check logs, the Committee extend their sincere thanks along with their congratulations to the winners in the various Sections.

Results below list in the following order:—Call, bands worked, average power used, districts worked, contacts and total points.

AUSTRALIA

Open

VK2PA	4	82	16	81	3888
VK7AB	4	90	16	52	2496
VK7LZ	4	42	16	48	2304
VK2OE	4	66	14	41	1722
VK6RU	4	100	12	36	1296
VK3JZ	4	80	12	27	972
VK4SN	3	10	10	22	660
VK3HG	4	75	11	16	528
VK2HZ	2	70	8	21	504

C.W.

VK2QL	4	55	16	40	1920
VK2ZC	4	66	16	34	1632
VK2PA	4	86	15	32	1440
VK3UM	4	35	15	30	1350
VK3XK/7	3	25	11	23	759
VK3ZC	3	30	8	19	456
VK3OU	2	8	19	19	456
VK2RA	2	4	7	84	84
VK5JG	3	30	4	5	*60
VK5RK	1	30	3	4	46
VK3XB	1	25	1	4	36
VK4JF	1	30	2	2	*12
VK6AS	1		1	1	*3

Phone

VK2PA	3	78	9	49	1323
VK2CI	2	22	8	53	1272
VK4HD	2	45	7	23	463
VK3TE	1	70	4	20	240

NEW ZEALAND

Open

ZL3HC	4	100	22	88	5808
ZL4GA	4	70	19	80	4560
ZL1AU	3	75	13	31	1209

C.W.

ZL1MB	4	100	22	85	5610
ZL4GA	4	90	19	65	3704
ZL4JA	4	45	21	58	3654
ZL3HC	4	100	19	45	2394
ZL2MM	1	80	6	29	522
ZL3CP	1	48	5	11	165
ZL4CD	1	46	1	1	*3

Phone

ZL3HC	3	100	15	48	2160
ZL2GG	1	60	6	23	414
ZL1CU	2	30	7	16	336
ZL4GA	3	50	7	15	315
ZL2AIN	1	80	4	9	108

* Indicates a check log.

1948 VK-ZL DX CONTEST

No word has yet been received from the N.Z.A.R.T. regarding the results of the VK-ZL Contest, however it is hoped that they will be in the next issue.



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FEDERAL, QSL, and DIVISIONAL NOTES

Federal President: W. R. Gronow, VK3WG; Federal Secretary: W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary—Dick Dowe (VK2RP), Box 1734, G.P.O., Sydney.
Meeting Night—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor—L. D. Coffe, VK2AM, 14b Walnut Street, Neutral Bay, N.S.W.

Zone Correspondents—North Coast and Tablelands: P. A. H. Alexander, VK2PA, Hill St., Port Macquarie; Newcastle: E. J. Baker, VK2JP, 13 Skilton St., Hamilton, Newcastle; Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: G. J. Russell, VK2QA, 116 Regan St., Nyngan; South Coast and Tablelands: R. H. Rayner, VK2PD, 42 Pettit St., Yass; Southern: E. N. Arnold, VK2QD, 673 Power Hill Ave., Albury; Western Suburbs: A. C. Pearce, VK2AHB, 48 Harriabrook Ave., Five Docks; Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 114 Hewlett St., Bronte; North Sydney: L. D. Coffe, VK2AM, 799 Military Rd., Mosman; St. George: J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton; South Sydney: V. H. Wilson, VK2YW, Cor. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary—C. G. Quin, VK3WQ.
Administrative Secretary—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.
Meeting Night—First Wednesday of each month at the Radio School, Melbourne Technical College.
Zone Correspondents—North Western: R. E. Trebilcock, VK3TL, 122 Victoria St., Kerang; Western: C. G. Waring, VK3YW, 12 Skene St., Stawell; South Western: W. H. Reed, VK3UT, Ballantrah, via Warrambool; North Eastern: J. A. Miller, VK3ABD, "Erinville," Avenel; Far North-Western Zone: Harry Dobson, VK3MP, 42 Walnut Ave., Mildura; Eastern Zone: Mrs. P. M. Churchward, VK3US, "Shirley," Red Hill.

FEDERAL

DX C.C. LISTING

As Newfoundland and Labrador have been deleted from the Countries List, due to their incorporation into the Dominion of Canada, members' tables below have been adjusted accordingly.

PHOEX

VK3JD (1)	34	125
VK6RU (2)	37	118
VK6KW (4)	36	115
VK3BZ (3)	37	114
VK6DD (6)	100	
VK3IG (5)	100	

C.W.

VK3CN (1)	40	143
VK3BZ (6)	40	142
VK3VW (4)	39	134
VK3QL (5)	40	181
VK3AE (9)	39	129
VK3EK (3)	39	121
VK3KR (10)	39	120
VK3HR (8)	39	117
VK3ED (2)	40	115
VK4DA (7)	38	112
VK4RF (11)	34	109
VK3UM (12)	36	103

OPEN

VK3BJ (2)	40	167
VK3DI (2)	40	159
VK4 (8)	37	147
VK3JE (12)	39	147
VK3BJ (3)	39	141
VK4HR (7)	39	138
VK3 (1)	39	138
VK6KW (13)	39	135
VK3MC (5)	39	131
VK4EL (10)	39	121
VK3NS (16)	39	122
VK3ZO (25)	38	108

New Open Members—

VK4KS (24)	103
VK3ZC (25) 38	108

COUNTRIES LIST

The date of passage of Israel (mentioned in last month's Notes) is the 14th May, 1948. Contacts with stations in the new state of Israel and Palestine (Arab) will be counted from this date. Due to doubt on the actual geographic boundaries of both States, cards are only being allowed from one or the other State, until such time as the boundaries are made clear.



WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during a period of 15 minutes after the official Broadcasts.

VK2WI—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI.

Intra-State working frequency, 7175 Kc.
VK3WI—Sundays, 1130 hours EST, simultaneously on 5580 and 7196 Kc. and broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI—Sundays, 0900 hours E.S.T. simultaneously on 3750 Kc., 7196 Kc., 14342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7062 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4WI.

VK5WI—Sundays, 1000 hours S.A.S.T. on 7196 Kc. Frequency checks are given by VK5WD on Friday evenings on the 7 and 14 Mc. bands.

VK6WI—Saturdays 1400 hours, Sundays 0950 hours W.A.S.T. on 7196 Kc. No frequency checks available.

VK7WI—Second and Fourth Sundays at 1000 hours E.S.T. on 7196 Kc. No frequency checks are available.

SILENT KEY

VK3UN

It is with deep regret we announce the passing of Robert (Bob) M. Dalton, VK3UN, ex-VK2UL, suddenly at his home in Camberwell, Melbourne, on 2nd July, 1949.

FREQUENCY ALLOCATIONS

The following is a list of the bands available for use by the Amateur Service in Australia, followed by the types of emission allowed on those bands.

3.5 to 3.8 Mc.—A1, 3, 2a, 6F3.
7.0 to 7.2 Mc.—A1, 3, 2a, 6F3.
14.0 to 14.4 Mc.—A1, 3, 2a, 6F3.
20.96 to 27.23 Mc.—A1, 3, FM.
28.0 to 30.0 Mc.—A1, 3, 2a, 6F3.
50.0 to 54.0 Mc.—A1, 2, 3, FM.
144 to 148 Mc.—A1, 2, 3, FM, Pulse.
228 to 296 Mc.—A1, 2, 3, FM, Pulse.
576 to 585 Mc.—A1, 2, 3, FM, Pulse.
1215 to 1300 Mc.—A1, 2, 3, FM, Pulse.
2300 to 2450 Mc.—A1, 2, 3, FM, Pulse.
3650 to 3850 Mc.—A1, 2, 3, FM, Pulse.
10090 to 10590 Mc.—A1, 2, 3, FM, Pulse.
21090 to 22090 Mc.—A1, 2, 3, FM, Pulse.
36000 Mc. and higher—A1, 2, 3, FM, Pulse.

Note.—6F3 emission represents a maximum deviation from the quiescent frequency of plus or minus 3 Kc.

W.I.A. ACTIVITIES CALENDAR

August 13-14: Remembrance Day Contest.
Sept. 17-18: First Week-end Indian DX Contest.
Sept. 24-25: Second Week-end Indian DX Contest.
Sept. 25: R.S.G.B. Direction Finding Contest.
Oct. 1-2: 1949 VK-ZL Contest (c.w.).
Oct. 8-9: 1949 VK-ZL Contest (phone).
Oct. 15-16: 1949 VK-ZL Contest (c.w.).
Oct. 22-23: 1949 VK-ZL Contest (phone).
Oct. 29-30: European DX Contest.

QUEENSLAND

Secretary—W. L. Stevens, VK4TB, Box 638J, G.P.O., Brisbane.

Meeting Night—Last Friday in each month at the State Service Building, Elizabeth St., City.

Divisional Sub-Editor—P. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary—E. A. Barber, VK5MD, Box 123AK, G.P.O., Adelaide.

Meeting Night—Second Tuesday of each month at 7175 Kc., Adelaide.

Divisional Sub-Editor—W. W. Parsons, VK6PS, 483 Explained, Henley Beach.

WESTERN AUSTRALIA

Secretary—W. E. Coxon, VK6AG, 7 Howard St., Perth.

Meeting Place—Ladbury House, Cor. St. George's Ter. and King St., Perth.

Meeting Night—Watch the Monthly Bulletin.

Divisional Sub-Editor—D. Conch, VK6WT, Mary St., Waterman's Bay, Western Australia.

TASMANIA

Secretary—R. D. O'May, VK7OM, Box 371B, G.P.O., Hobart.

Meeting Night—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor—Capt. E. J. Cruise, VK7EJ, 42 Victoria St., Hobart.

Northern Correspondent: C. P. Wright, VK7LZ, 3 Knight St., Launceston.

REMEMBRANCE DAY CONTEST

This Annual Contest of the W.I.A., the Rules for which were printed in last month's "A.R.", page 12, is to commence on 12th August at 1800 hours and concludes at 1730 hours on the 14th August. This Contest perpetuates the memory of those Amateurs who made the supreme sacrifice during the 1914-18 War, and we rejoice all active Amateurs to take part in this very popular event. It was very popular last year, but this year we expect a "bumper" entry as it is conducted in the spirit of "friendly rivalry" between the various States. We do, however, urge all non-participants (we hope there won't be many) to observe the "gentleman's agreement" on the use of frequency channels. As every Amateur who makes five or more contacts can assist his State's score, please send in those logs.

FEDERAL CONSTITUTION ALTERATION

Federal Executive, on behalf of the Federal Council of the Wireless Institute of Australia, hereby gives notice that it is intended to alter the FEDERAL CONSTITUTION OF THE WIRELESS INSTITUTE OF AUSTRALIA (as amended) 1947, Part III, Section 9, as follows:—

"Each representative of a Division on the Federal Council shall be elected annually during the period of sixty days immediately prior to the commencement of the annual Federal Convention by the voting members of the respective Division."

COPIES OF "A.R."

At the recent Federal Convention, a motion was passed by Federal Council that members in outlying districts may obtain their copies of "Amateur Radio" by airmail by making the necessary arrangements through their Divisional Council. Such extra expense will be borne by the member concerned.

STATE OBSERVERS

In order to ensure effective action in clearing the Amateur Bands of commercial-station operation, the Federal Council decided at the last Convention that the most efficient method of combating these "menaces" would be to appoint official observers in each State. Some Divisions have already appointed one or two observers in each State, but reporting will be more effective if a number of observers are available for this duty. Here is your opportunity to offer your services as a State observer, and assist the Institute as a whole. Associate members of the Divisions can be especially useful in this regard; so if you wish to undertake this important function, please contact your Divisional Council at the earliest.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Bud Lewis, W9KQR, 2001 Washington St., Manitowish, Wis., U.S.A., writes: "May I inquire what is the trouble with the VK gang who operate the 7 Mc. band? I have contacted eight of them and each one promised faithfully to be the first VK to send me a card but yet have nothing to show from your country. The ZLA QSL 100 per cent. Stations owing me a card are VKs 8AE, 30C, 3MC, 3FX, 3ARS, 2GW, 3WG, 3KO. It is not often that we Ws. work VK with QRP." Perhaps some of the listed stations will do the right thing by Bud.

David Watkins, MP2AC, care the British Forces Radio Station, via Bellosguardo No. 8, Trieste, Free Territory of Trieste, desires all cards for contact with his station to be sent to the above address.

George Houston, 2654 North Palmer St., Milwaukee 12, Wis., U.S.A., writes enquiring for the present address of the station who signed VK4TA and worked the twenty metre phone band during May of 1948. He has forwarded a stamped addressed envelope for my reply. Can anyone help out with the information?

In the following flowery language, C07GM sends out chase cards for QSLs he has not yet received. I quote: "According to my log book is evident that in 1948 this sincere friend of you, had the great privilege of having a contact with your station. Likewise is certain from the records of my log book that to verify that pleasant contact it was made immediately to you my QSL card. To-day looking through my QSL file, invaluable treasure of my station, I note with great grief and sadness that the place of honour assigned to your card is empty. Perhaps misplaced in the mail, perhaps involuntary forgetfulness due to something unexpected out of your knowledge, have deprived me of the rejoicing and pleasure of receiving this attention in agreement of mine. Begging pardon for this same reminder, and meanwhile, I hope that you continue having the sincere expression of my friendship and good fellowship, your always friend and colleague, Guillermo Melo Quiros." A little verbose, maybe, but existentially put, and should achieve results.

Has anyone any fresh dope on VK4SL, portable Gilbert Island, who is telling Yanks galore that he

is now licensed by the Australian Government. Phil Pabberg, W0SGK, advises that he has acquired himself a half acre allotment at 5910 S. Vandale, R.F.D.6, Wichita 15, Kansas, and plans to utilize it to advantage to solve antenna problems.

The most sought after VU—VUTAF—has now QRT for ever. "Too-too," the operator, was the Indian Ambassador in Nepal (a small independent state sandwiched between India and Tibet) and has now returned to India. We expect to hear him again soon under a VU2 call sign.

To compensate for the loss of this rare DX station, India offers two brand new stations, FN1G and FN8DC. Both are licensed and are situated in a French Indian town—Chanderagore—approximately 80 miles north of Calcutta.

VU2HM, well known to many VK stations, informs us that he has misplaced his log book and a bundle of QSL cards he had received from DX countries. He requests all stations who have not yet received his card to send a duplicate card to the A.R.C.L. QSL Bureau, Box 6646, Bombay 20, India, marked "duplicate." The Bureau holds a stock of blank cards and will send out a fresh one to Hams needing same.

The first DX contest organized by the Amateur Radio Club, India, will be held from 1130 hours G.M.T., Saturday, 17th September, to 1530 hours G.M.T., Sunday, September 18, and from 1130 hours G.M.T., Saturday, September 24, to 1300 hours G.M.T., Sunday, September 25. It is open to all countries bounded by longitudes 10 East to 150 East.

NEW SOUTH WALES

HEADQUARTERS NOTES

Owing to the present power restrictions, the meeting of the N.S.W. Division, set down for Friday, 24th June, was unable to be held. Science House, where the meeting is convened each month, has no auxiliary power supply of its own, and a few days before the meeting was due, it was announced that Science House would be closed to all night gatherings for the duration of the present restrictions.

Efforts are being made to secure a meeting place for the July gathering, but the situation is present-

ing difficulties, as may be imagined. However, we never know our luck.

Zone correspondents' notes are conspicuous by their absence this month. What about a bit of co-operation, chaps? You know "A.R." has advanced publication date, and the copy is needed just that much earlier.

NORTH SHORE ZONE

Not a great deal to report this month, since the present strike has curtailed the activities of most of the boys considerably. Quite an experience to turn on the receiver on Saturday afternoons and hear the DX rolling in with practically no QRM. But it won't last!

First and foremost this month, hearty congratulations are in order to Mr. and Mrs. 2VN. Morrie and his charming XVL are the proud parents of a new YL junior op., who will no doubt emulate her daddy in time and punch a key with the best of them; very FB.!

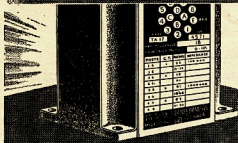
Which reminds me that 2PV's three-year-old daughter has quite a professional touch on Pete's bug. 2VL having trouble with his 813 final, and is swearing he will re-build the thing. 2GC copying the commercials like fury, determined to bug his speed up a couple of notches. Says there is a slight difference in the formation of code characters between the commercials and the Hams!

2XM heard chasing some nice DX lately. 2AMB has received a QSL from 7A, which tickles him more than somewhat. 2KV completed an f.b. clipper circuit, hooked it up in the modulator, had it working nicely, and then had the misfortune to have his final power supply tranny go up in smoke. He had dual secondaries on it, which shortened—bad luck. 2AJL finished off his mast, and rounded up a bunch of the boys to join a pole-raising bee. 2VE, says rumour, has won a communications receiver—half your luck! 2EH in the throes of shifting location, which hampers DX to some extent. And, last but not least, congratulations from all on the North Shore to the Hams who did such an outstanding job in the Hunter River Valley during the recent disastrous floods.

SOUTH ZONE

The recent cold and stormy weather probably accounts for lack of activity this month, the v.e.f. bands being particularly quiet. 2WJ is active on 10 and 6 metres, but had trouble with his 10 metre

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beam. The high winds broke his co-ax feeder, but a local working bee soon put things right again. 2ABU still working plenty of DX on 20 with his two element beam, but unfortunately his crystal microphone suffered from the damp weather. 2ABH is back from another trip to England and has been heard on 20 metres, and threatens to put a signal on 6 metres soon. 2ABK has at last completed his garage and is busy punching large holes in 6 and 10 metres.

I save one of the nicest beams yet when I had a look at 2VA's latest effort. It is three elements wide-spaced on 20 metres and judging by the construction should withstand all the winds that blow. It will have to be a Vince has his crystal position, right on top of a hill. 2VW also has his new tower and beams completed. Total height is 40 feet with a 4 element wide-spaced for 144 Mc. on top, then a four element wide-spaced on 6 metres, followed by a three element close-spaced on 10 metres. 2VU not heard much lately but I believe is still active on 20 metres. Has a new folded dipole which works very well. Our congratulations to 2ANB for his effort in winning the recent 144 Mc. Contest. That corner reflector certainly pays dividends. No news from the rest of the gang, so what say, fellows, for next month.

SOUTH COAST AND TABLELANDS

2PI is re-building and has p.p. 807s going, also a modulation checker with a 5BPI, four hand excited under way and double conversion super going OK. 2TV working on new 10 metre beam, but has some more tuning up to be done. 2ANR, 2ANB, 2PM, 2TV visited 2PI at Hall. 2ANB using a Type A Mark III from Canberra but expects to return to Sydney shortly. 2AMN has been heard but briefly. "Gong" notes are to hand with thanks to 2MT who is finding DX very poor after some good contacts on 20. Has 50 up post-war and 38 new. Requires South America for W.A.C. on 10. 50 watts to an 807 does the trick and the receiver is 11 tubes double conversion. Chas has 144 Mc. gear going but can't get the "Gong" crowd interested. 2VII has a folded dipole and with 30 watts doing well. 2UK busy cutting records at Etistford, no time for Ham Radio. 2VP has had bad luck with some 7 Mc. crystals. Bill had the crystals out for cleaning and the junior op. played bouncy-bouncy with them! 2LA has no room to operate, so is off for the time being. The "Gong" Club is still active with members awaiting for the A.O.C.F. Eric Fisher is amongst the latest to sit for a ticket.

COALFIELDS AND LAKES ZONE

Practically no news from the Lakes area, although 2KL, Woy, and some of the boys at Etistford have been active on 40. Wyong Hams seem to have given the game away. At Gosford, 2AMU on 28 and 30, 2AGZ 14, and 2BU on 50 and 144 Mc. keep that town on the map. 2BU keeps quite a comprehensive record of conditions on 50 and hopes to make checks at similar periods over various years. Major has been hearing some of the Sydney gang on 144 Mc. lately.

Old-timer 2YVO has been heard on 40 phone. 2KZ more or less retired, hope to hear you soon again

Max. Bob 2KPF has made some improvements in his rig, putting out a good signal on 28 Mc. 2AJB has left Murrellbrook and now residing at Bellingen or near there. 2YU has been heard with good phone on 40. 2JZ active on 28 although not heard much. 2TY mainly on 28. Bob did some good work for the public during the recent floods at Maitland. 2PZ still not active. 2MK gets out on 40 occasionally and was active during flood week-end. 2ADY has been hearing 2AH on 144 Mc. consistently for a month and has had several 144 Mc. contacts with Alan, also working into Sydney and the Mountains on 50 Mc. Jack did good work on 3.5, 7 and 28 Mc. during the floods.

2YL, who is not as yet very active, also did some valuable work on 7 and 28 Mc. bands during the flood week-end. Stations in the flood area and close districts who seemed to be on the job when the time arose, especially when the telephone wires were down, were: 2AKP, 2XQ, 2TY, 2AHA, 2CI, 2MK, 2NL, 2KF, 2ADY, and 2YL.

VICTORIA

NORTH WESTERN ZONE

These notes will be the last from 2ABG as a new correspondent will be elected at the Wangaratta Convention. As was to be expected after what has been written, your scribe was not invited, but intends going anyway. 3KI, our white plaster saint secretary, ran the last book-up on 3rd July. Ken's signal was 89 plus, with beautiful quality, and his excellent operating and smooth voice were a pleasure to hear. He is a perfectly balanced Ham, using phone and c.w. v.f.o. and crystal and treats his family well. Research into his past failed to reveal anything interesting (That's what you think—Ed.). 3UI also is not nearly as bad as reported in these notes during the year. Alan has alternate battery powered station going for power failures.

3UI and 3APF both have n.b.f.m. transmitters and receivers going. 3YV is recovering after his long illness. 3JK is trying to modulate his car 100 per cent. 3VS was out till 2 a.m. on a recent Saturday evening and was not feeling the best during the same book-up. Tom may have been celebrating working VKIADs on 80 metres, or it may have been something else. 3KR's comment: "We were all four once."

SOUTH WESTERN ZONE

Here we are again with the news of your zone for the past month, but conditions here on 20 and 40 has made it hard, though 80 has been good. Heard 3AKE trying out a new modulator with f.b. resonant, and Ed. by the way, is putting up an 80 ft. stick. 3BW has his Type A Mark III on phone on 80 and 40 metres and is getting out well on QRP power. 3AB has new motor-bike, so Geelong gang will be hearing Dick often now.

3AJF has new QTH but not active as yet. 3ALG had a go at f.m. on 40 and worked 3VF at Drysdale. Fred has been on 21 metre c.w. working some rare DX so I hear. 3BU had receiver trouble but he has cleared up now. 3WT still puts out an

f.b. signal with his QRP rig of only 2 watts. Had 3BE and 3VA down for a day a few weeks ago, but they were not impressed with gear here, of course it's only junk I know. 3BI is over his eye trouble, as I heard him working 3MH the other day, signals were f.b. both ways here and good phone.

3HG runs an 89 signal here on both 40 and 80, also old friend 3II is better here on 80 than 40. Had a short yarn to 3AGD other night and also 3AKR who is putting up a super special vee beam. 3JA can be heard working 3HI on Sunday mornings on 80 and at odd times on 20 c.w. 3YE has improved his signals on 40 now, what did you do Vern? A newcomer to Colac is Gordon 3AGE who has an f.b. signal for only 15 watts, good work Gordon, keep it up.

Geelong Amateur Radio Club.—At the Annual Meeting of the Geelong Club on 22nd June a report on the activities of the Club during the past year was given by the Secretary Bob Woolley (3IG). The Treasurer, Alf Foster (3AFJ), and the Publicity Officer, Fred Freeman (3ALG), gave their reports. New officers were elected by the members and are as follows:—Ed Kossek (3AKE), President; Messrs. W. Brownbill (3BU) and A. Bell (3ABE), Vice-

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Presidents; Bob Wooley (310), Secretary; Fred Freeman (3ALG), Publicity Officer; Committee: W. Barratt (3WT), Dick Highway (3ABK), Peter Cartwright, and Jack Mitchell. We wish the Club every success in its second year.

FAR NORTH WESTERN ZONE
A form of hibernation seems to have effected most members of this zone as once again your scribe has little to report. However we have commenced a zone hook-up Sunday morning at 0900 hours on 7185 Kc. To date we have had f.b. five-way sessions with 3FC and 3AFC in Ouyen, 3GZ and 3MP in Mildura and our unofficial zone member, Jeff 2AHM, who lives up in the sheep country 80 miles north of Mildura. Jeff is the boy whose warts are warts; 3 warts from his QTH and any signal strength meter needles within 200 miles get a terrific hammering. 3AUG now has his modulator completed and tested, so we look forward to him joining the hook-up any time now.

Code practice classes continue but I fear that one or two have fallen by the wayside. However those associates that are sticking at it will get through OK as they are as keen as mustard. The big double conversion super Jim Power has had under construction for some time, is now completed and really is a joy to behold; band-switched with a dial giving 600 calibration points, alignment as yet not completed. But this receiver should be making short work of the DX 'ere you read this.

WESTERN ZONE
Our President evidently has something about him the Secretary hasn't got, as he drew the biggest attendance at the zone hook-up for years, nice work George. Peppers were put out for the Annual Convention, and same has now been fixed for 18th September and will be held at Castlemaine. The Secretary and the willing local Hams are now busy devising ways and means, but whatever happens chaps, keep the date in mind—keep it free—talk about it over the air—and come along yourselves. We can promise an interesting day and lots of fun.

EASTERN ZONE
The Eastern Zone is planning its next Convention, and present indications are that the last week in November will see a large gathering in the Morwell-Vinnar district. More definite details will be available for the next issue of the Magazine. An interesting programme is being drawn up, so we suggest that you all do your best to come along to our Convention.

We are pleased to welcome two more v.h.f. men to the zone. 3TO has moved to Yallaconda, from Campbell, and we expect some 144 Mc. activity from him. There's a contact for you Syd, on those field days! 3OD, late of Horsham, has recently moved to Frankston. Claude has quite a reputation for 6 metre DX and his new location should prove satisfactory. We hope to hear you both in our weekly Sunday hook-ups, 2000 hours on 3650 Kc.

3PR had 3DI to help him erect his new masts in an area free from rising trees. We were glad to cut out an even better signal now, Ron. 3GZ is still waiting impatiently for the time when he can set up his gear in his new home. Graham seems to spend all his spare time on the lathe. 3SS is snowed under with work, and waitfully remarked recently that Junior OP, David, will soon be old enough to give valuable assistance. 3WE is still having trouble with his line to the lounge. The Omeo weather is living up to its reputation. 3TH is back from motorizing through Victoria. 3OD enjoyed his well-earned holiday, though he did very little portable work. Two QSOs were all that he had.

QUEENSLAND

The June general meeting was held on the 24th June, 1949. The President 4AW was in the chair and the 35 members present were made up of 18 transmitting members and 7 students. The President called for volunteers to act as official observers to police the Ham bands and report on the commercial stations heard operating therein. There were few offers, the general opinion being that it was the duty of every Ham to report such matters and thus help to keep the bands free of all but Amateur transmissions. 4FN reported on the progress being made to establish emergency network. After which, those present were treated to a two-hour screening of films. Our thanks go to the generosity of the Poultry Farmers' Association and to 4KO who made the screening possible. The films dealt with Electro Magnetism, Induction, the Electron, the Diode, the Triode, plus a film, titled "Pygmies of Africa." It is a pity that the fact that these films were to be screened was not publicised to enable many more members to have made arrangements to be present.

Sunday the 19th June marked the first of the regular Sunday morning transmissions of s.a.c. by 4WL. The frequency being used is 7100 Kc. This Sunday was also the first time that a station outside Australia took part in the round table chat after the news broadcast, the station being a VR2.

A Technical Committee has been formed with the following six being elected unopposed: VK4ES, 4WJ, 4TH, 4BU, 4AG and Mr. R. Henry. A Technical Director will be appointed later.

Frank, of "burnt out transformer" fame, has started a new trick, his latest being to set fire to 4TH 4BU's. And speaking of fire, we regret that 4WF had the misfortune of having his HRO and most of the transmitting gear destroyed by fire.

ZONE NEWS
Townsville Zone (4OD)—On 18th June the Townsville Club held a social evening at which all the OM's, XY's, Y's, and harmonics had a most enjoyable time. Clifford Arnold, of Amateur Hour fame, was also present, but the only talent he could find were "see-bashers." The Townsville boys told him all about the Amateurs but not the same type the talent scout was looking for. Most of the gang up here have gone in for phase modulation. The 4TB had given up its room and moved their meetings in the second studio of 4TO. 4RW is now using a GSPD on 20. The morning after the social we noticed that 4RU sounded like a very bad hang-over and complained a sour taste, whilst 4RW in between hiccochs wondered how his car was after the night's outing. Did they spoil the crackle finish Bob?

Mackay Zone (4KW)—Very little from this zone this month. Conditions have not been favourable for the keeping of our weekly skeds. Stations from this zone being very hard to copy on the last four Sunday mornings.

Rockhampton Zone—Although we have no official correspondent for this zone, we have managed to get a little news from the boys up there. We are indebted for our information to 4XJ who has recently moved to Rockhampton. 4VD is using a peak limiter and a 4 element rotary beam. He has 140 countries post-war. 4DO uses a pair of 80T's with 80 watts input. 4TD is very interested in 10 and 6 metres and is the only one in Rocky operating on 6 metres. 4ZB very active on 10 metres. 4KC rebuilding and still working on repairs to antenna which was damaged in the cyclone. 4ZL moving to a new QTH. 4WA heard occasionally on 40 metres working 4EW. LWS was very impressed with the excellence of the home being used by practically every Ham in Rocky. We understand that the Rockhampton Radio Club has been abandoned.

Bundaberg Zone (4B)—4HE testing new system of break-in operation. 4UR building Command receiver for use in the new car. During the month

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4BG of Maryland being visited 4BSJ and met the Bundy gang at their Club meeting.

Gymple Zone (4HZ).—4LN has been playing around with an ATR58 and is so taken up with it that Barry wants to buy one. 4RA using a semi-wireless circuit. 4LW is a very active pirate on the Americans. 4KT still inactive but still manages to collect a nice batch of DX cards, so beware fellows, the 4KT at present operating is a pirate. Another 4KT, the Gymple Zone who has a very active pirate on 20 meters is 4HD. 4HZ has re-tamped his F80 and now has coverage from 8.45 to 7.3 Mc. Jim also overhauled his loop antenna and the meter, but striking a lot of trouble with arcing across the North tuning condenser. Can anybody supply Jim with dope on how to construct and use loop antennae? Dues for 1950—4LN has a new 400 watt 4ZL was operating portable near Pampas checking the P layer for the C.S.L.R. 4DA is now operating on 40 m.f.m. 4CJ building a new rig for 50 Mc. using 815 in the final. Charlie is using the receiver whilst his rig was running and blew a tube in the receiver. Charlie reckons that good tubes can be made of burnt out fluorescent tubes as dummy antennae. On the 20th June 1950 4ZL and 1920 hours, 4XN worked 3FG and 3IN on 50 Mcgacycles.

SOUTH AUSTRALIA

The monthly general meeting for June was held at another capacity house when Mr. Bourne, of Phillips Valves, gave a very interesting and constructive lecture on "Valve Manufacture." Illustrated with samples of valves and using the opedek, that is to say the opedek, the okedokop, oh well, have to say your own way, the magic lantern. [I must get Mr. Adey to pronounce that word for one day, he should know it better than I do, being the operator.] The lecture was probably the longest we have ever had, but at no time did it appear as if the result of thanks so ably proposed by "Pop" Deane was a clear indication of the meeting's appreciation, judging by the applause. The meeting for once closed on a quiet note, and I must say something about that, we were close like a bit of noise to close the meeting.

Quite a number of members were very disappointed when Gordon Bowen (5AU) did not oblige with a little something about the "Squid" and "Skink" over in the corner of the meeting room, it was only a small organ, and that probably was the reason, because Gordon always plays on a large organ and would have been out of touch or something, mostly something I think.

Among the very welcome visitors were Messrs. D. Osborn, G. Stone, G. Britten (G3CXG) and last but not least, Mr. Stephen. Stephen was present at the meeting called to my mind the time about two years or so ago when we heard his plea for help read out to the general meeting. For the benefit of those who are not present, and any others who may be interested, it appears that some two, or two and a half years ago, 5VIGR began to realise that his homeland of Greece was no longer a very interesting thing in the way of peace, comfort, or security, and he decided to write to the three Divisional Secretaries of the W.I.A., to wit, VK2, VK3, VK5, in the hope that they could help him regarding information, etc., as to how he could migrate to the land of promise that he had heard so much about during his many contacts with VK Americans.

The only secretary to reply was "Doc" (5MD), and he enclosed full particulars to 5VIGR. I promptly replied, and it was this letter that "Doc" read out to the meeting. At this period in the proceedings, "Doc" realised that he could do no more in the matter, and handed the matter over to Mr. Lewis who is the recognised leader of the Greek community in VK5. The results of this move are now seen, and 5VIGR must surely be glad it was his lucky day that prompted him to write to the W.I.A., and also that one Divisional Secretary was not too busy to extend the helping hand of Amateur Radio to fellow Ham in a far distant land. 5VIGR flew out from Greece to Sydney, and although he stayed there for a period, it now seems that the DX had broken through or something, because only VK5 came to see him. He then flew over for VK5 and was met on arrival by "Doc" and Hal Austin (5AW) who saw him safely installed in a hotel, and feeling as comfortable as possible under the circumstances. He then stayed in the hotel arrival in VK5 by having 27 teeth out almost the next day, what a man! Well there's the story fellows, and I think you can get what I mean. Teddy Barber (5MD), I think he has got what it takes to be a "white" man. Nuff said!

Max Farmer (6GF) and Joe McCallister were two members of a syndicate lucky enough to get second prize in the Interstate contest. Max got 20,000 of the best. Phew! I succeeded in rubbing myself against Joe for luck, but couldn't get near enough to Max on account of not quite so many other fellows had the same idea. Best of luck fellows. There's only one other chappy, besides yourselves, that I would like to see get the same lucky break!!

I received a QSL card for my phone contact with G5MX from George Loxton at the last meeting, and some uncouth person had written on it, "I don't believe it." "White" man or no "white" man, Barber, then's fighting words! 5MF has now 99 countries towards his DX C.C. I wouldn't have known this but every time I tried to get near the QSL Office at the meeting I was tripping over Al. A few leading questions soon gave me the answer. 5FH, despite days of very little doing too, and were to work at least one G station per day, and has been doing this for quite some time too.

The number of ten metre addicts who are drifting up to twenty three days is remarkable. Heard 5KG wandering around in the c.w. end of twenty the other day, seemed a trifle dazed too, and were the c.w. boys giving him a hiding, they were swooping on him like a lot of magpies. Heard 5KH, later on in the c.w. end and he seemed more at home there. Fancy you trying to take on the c.w. gang with phone Bert. Don't you remember how you and I used to gang up on the phone guys back in the bad old days!!

OUR REGRETS

We regret that owing to a reduction in the number of pages, "The Old Man" and "Fifty Megacycles and Above" have had to be deleted from this issue.

This next paragraph was intended to carry publicity concerning the Northern Networks' super-colossal, stupendous, dynamic, soul-searing competition, but I received a note from the organiser BUX telling me that it had fallen through for lack of interest and co-operation. Well Les, this is the organiser's life, and after a few "Knockbarks" that you will realise, as do, that the average Ham is a good suggester, but a poor doer. I could tell you a few stories of some of my failures, but I draw the veil. If anyone suggests anything to me these days I simply put it right back in their lap, and they go cold on it quicker than you could think possible. By the way Les, "Doc" said that my referring to you as a fellow journalist was as good as a piece of crawling as he had ever heard. We syndicated writers can afford to ignore such childish jealousy, can't we Les old pal? Try that on your grand place using the loud pedal, "Doc."

Why does it have to happen to me? Five candidates pass the recent A.O.P. exam and two of them live at Henley Beach. Wouldn't it transmit

you? 5JA has been very quiet, only a few local contacts. John has been waiting patiently for 5CU to give him a 6 metre signal so that he can test his gear, but apparently the dishes have Col in a hammerlock. Don't say I didn't warn you. 5MS is his regular partner, so far there are no 6 metre in his modulator and is now right in the middle of the carpentering work of erecting a tower for his 20 metre beam. 5FD is on the air with the 6 metre beam, and so far there are no 6 metre, but conditions have kept him fairly inactive. Not much from "Erp" (5KU) this month, apparently the prevailing conditions make the dining room too much more attractive. He is building a "Clap" oscillator. 5CH is away on business and might just as well be in "smoke" for all the news I can rake up. Where the heck are you Claude?

5TW has been doing a little DX on 10 and 15, where the conditions permitted, which, as Tom says, is not very often. My apx, 5CJ, is still very busy, but is at last seeing the end of some of his extra jobs. Col tells me that the gang are looking forward to the visit of our respected Secretary, although they have locked up all their spare tubes, etc., in case he has been learning bad habits at "HOME."

I received a very welcome letter from an old friend of mine, to wit Laurie Sjoberg (5SL). Unfortunately nearly all the contents dealt with 14 Mc., and of course those details belong to another section of the "mag," anyway I have forwarded the letter to the appropriate sub-editor, and thank you "Skinky." Heard 5QZ on the air the other night and was surprised at the depth of his modulation considering that he was only talking a little above whisper. Ken does not know it, but he is one of the old-timers who is the cause of my taking up Amateur Radio. I used to listen with bated breath to Les Fielder, Doug (5BY) and Ken on a Sunday morning and wonder if I could some day be like them. You've got a lot to answer for Ken, if you had not given me the urge, I wouldn't have been sticking my nose into other people's business today, and many an Amateur could have kept his guilty secret buried.

I received a letter from 5BG supporting my open letter to 5JP. Thanks Roth, but I merely meant to say that I was not the author of a large number of fed-up VK5 boys. And now to close for this month I will release the latest joke from Mount Gumbler. It appears that "Doc" came back from sailing and told 5CJ that the fishing was very good, in fact "Doc" said he had just caught a fish that weighed fifty pounds. Col said that he had never been able to catch anything around that part of the coast although he had caught a hurricane lamp there once and strangely enough the lamp was still afloat. "Break it down," said "Doc," "I can't swallow that." "Well," said Col, "you know thirty pounds off the weight of your fish and I will blow out the hurricane lamp." You can't trick these South East boys.

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TIME IS SHORT — DO IT NOW.

WESTERN AUSTRALIA

The June meeting was held on the 21st and we were very pleased indeed to see two country members in the midst. From Geraldton came 6WZ accompanied by a fanfare of high-waggling. Harry's hasty departure the following morning seemed to indicate he didn't bring the XYL's either. He was a last visit? 6MG represented Manjimup. It is thought Mac came especially to collect the £11/- which he won as the 6JZ trophy in the Eastern contest. It was a pity that the XYL's didn't bring their company on the occasion and the same goes for any other country members who are in town on a meeting night.

Notice was given about the changes in distribution of "Amateur Radio" and from now on the mag should be available during the first week of each month. Please advise our Secretary if the changes in mailing arrangements are intended to increase the price of "Amateur Radio," our annual subscription will also be increased. It was put to the meeting and tentative arrangements are that country members' fee be £1, whilst city members pay £1/5/-, 6RU announced that he is donating a trophy known as the Contests Trophy to be awarded to the winner of the contest in each division participating in all eligible contests. Points being obtained for the number of contests entered for and best scoring figures.

6LW closed the Division 15 to commence a Building Fund. Thanks for this very fine gesture Wal, but what about attending a meeting or two these days? 6SR (who is the official station of the 6th Division Western Australia, was elected as a new member and brings our total membership figures to 150. The Gen. Scott Trophy for best DX was awarded to 6LW. 6LW's trophy was a globe of the 6th Division donated to 6RU by the 6th Amateur Station, 6KW being a very close second place. A small auction sale was conducted and the meeting ran late to 10 p.m. Unfortunately we were not able to hear 6KX's very recorder, but we hope to hear ourselves as others hear it at the next meeting—if we can find some a.c.!

PERSONALITIES

The forty metre scramble provided lots of fun and games for all participants. 6DJ pounded the brass nearly all day, 6KB being the only one to keep him company. 6WU put in a whole of a signal in the 6th Division and was the only one to get the best tone. 6ERL had a good signal from Northam, as did 6MO from Waterloo—both these chaps keep their scores secret. 6BR and 6GZ were the only two who were in the things organised—looks as though Ron should get top marks. 6GA had his rig running well, Bill has a spare receiver for me they say. 6GB and 6SR were both in the 6th Division in the scramble. 6MB started up as crystal control and had to change to v.f.o. to be in the race.

We also had 6WU had his 4520 going in time, also that 6NW was now modulating towards 100 per cent mark. 6OR saw the game out using the one crystal frequency. 6GZ was unfortunately out of the race. We found that 6ZZ had to come down from his high frequency perch to get the more elusive stations. 6DX raced all over the band in the scramble for supremacy. Who said 6Gadgones is behind Perth time, Bill? We had better ask 6DD about that!

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above list and you were on in the contest, please advise 6GA!

We spotted 6OR around town again after a visit to 6RK. Thanks to 30V, Jack had a right royal time. Guess he needed your assistance in the scramble Allan to operate those other receivers!

TASMANIA

The July general meeting was held as usual on the third Wednesday of the month and at the conclusion of the general business a very fine lecture was given by 7LZ (Len Edwards) on the intricacies and wonders of single sideband suppressed carrier transmitter. Len did an excellent job and put on his story in a workmanlike manner. Not only did he talk at length on the building of such a rig, but he brought along (per courtesy of 7CA), the whole box and dice including a receiver and a c.w. with beat and tone and the band and the tone.

There was no doubt about it, 6A.S.C. certainly has got something and to hear Len explain it makes one want to rush home and try the proverbial hand. Thanks once again 7LZ and I don't think I am putting my head out when I say the Tasmanian Division is proud of you and your effort.

Whilst I am on this subject, I have no wish to detract any credit from 7HD, Dave Ward, who is also a 6A.S.C. member. Dave is using a different system to Len, in that where Len uses a filter system to chop off a sideband, Dave uses a phasing system to achieve the same end. In any case the Tasmanian Division is very lucky to have two progressive Hams in Len and Dave because through their efforts, Tasmania can claim the first two-way Ham calling card using single sideband suppressed carrier transmission!

At this month's general meeting we were without the services of our worthy Secretary 7OB (Bob O'Kear). Our President told us that Bob had a large piece of boiler plate dropped on his left foot and naturally just couldn't make it. 'I'll say even so that wasn't a c.w. member, but it wasn't his right foot or he wouldn't be able to go on the air!' Oh! Roy how could you? Pardon the crack Bob, but I'm sure I am expressing the feelings of every c.w. member when I say that the recovery and lots of DX whilst you are convalescing.

The 6A.S.C. beg is catching on very quickly here, 7JP, 7MY, and 7CA are all tinkering. Len has the first stage working and Alan has the rack built. Max is somewhat of an unknown quantity although I believe "a signal" was heard a few nights ago.

NORTHERN ZONE

This month your usual scribe is taking a rest from his news hunting and reporting, so in his stead here is a brief chronicle of the news and views of all stations in the zone. It was marked the conclusion of a very successful first year and to those who have made it so, our appreciation is due. The July meeting, scheduled for the second Friday will see the office-bearers elected for the next twelve months. We do not expect any trouble from "rigged" ballots or the like, so members may safely leave all fears at home on the shelf.

7BQ seems to have deserted the lower frequencies, has a hefty signal here on 6 metres with his three element beam only a few feet from the ground. The only lack of signal here is that "Lucky" it has—should a poor misguided bird ever get in he'd starve trying to thread his way out through the mass of beams, they all appear to work out very well however. The 6A.S.C. have been a little more keen to work with blisters on the hands from the hard work put in at the prospective QTH, consequently most times they miss.

7AM also with the building bug, and his new shack promises to be "a thing of beauty and a joy forever." 7RB heard quite frequently and his 40 metre phone line very pleasant. 7HB, another of the clan bemoaning the state of the DX bands, is a very busy man these days, but anxiously awaiting the end of the football season to really get on his feet. 7HB's 40 metre phone line has forsaken the ancient art as 'tis many moons since a signal was heard from his QTH. Blonde, brunette, red head or lady No.1? 7HB's back on 40 metre phone line after some years absence. 7HY's XYL complaining that she never sees Henry these days—now where have I heard that before? Henry and 7RB things have been going a much needed spring clean so activity has been limited. 20 metres yielded only one good one for the month, 7MRAK with a doubtful 7B note on 14550 Kc. 7BA had a signal, but I haven't any memory about the one that got away, so cheers for now.

MORESBY AREA

By G. A. WARNER, VK9GW

I desire to correct a statement made in the May issue of "Amateur Radio." This appears in the Zone news page where it was stated that the station is given: "5ADL (ex-9BM) building with p.p. 8075 100 watts and Bruce's receiver is still in

VK9 land, so 90W has it and it's a BC342 . . ." It is true that the last I heard of 9BM's receiver, it was in VK9 land, but it is not in my care or possession, nor is it likely to be. The reason for its delayed departure for Australia is, I believe, due to quite another story altogether. Activities around VK9 have dropped off a little lately, chiefly owing to the poor conditions on the higher frequency bands. 10 metres is useless, except for Pacific contacts at odd daylight hours. VK5 and VK6 are still in the air, but on 7 Mc. and manages to place his 100 watts in VK despite the handicap of having mango trees growing through his 400 ft. small 40 m. antenna. 9B has a 100 watt 9AB, a newcomer from ZL1, is getting on 500 m. on 14 Mc., mainly interested in ZL QSOs. It seems Alf has the AHS/AT3 set-up and lots of ingenuity. 9PJ getting some DX with his c.w. 9AB, a newcomer from ZL1, is getting on 500 m. on 14 Mc., mainly interested in ZL QSOs. It seems Alf has the AHS/AT3 set-up and lots of ingenuity. 9PJ getting some DX with his c.w. 9AB, a newcomer from ZL1, is getting on 500 m. on 14 Mc., mainly interested in ZL QSOs.

PYV paid a hurried visit to Moresby recently and between Ham that exchanged plenty of wags on a host of living conditions and local conversation anywhere in the Territories these days. Reports little Ham activity in Wewak. 9NK QTH temporarily due QTH shift and re-wiring of old faithful 9K. The oldest (Ham) inhabitant around here is 9KC (ex-VK4KC), still thinking of getting back on, but so far has nice shack with nothing in it except a few bits of wire. 9K is still really active. 9GW to be seen lots lately in attitude (which might be mistaken for prayer) in front of modular unit. Driven from 19 metre by poor conditions, concentrating rather on North and South America, since 2P and FY8 to complete both continents.

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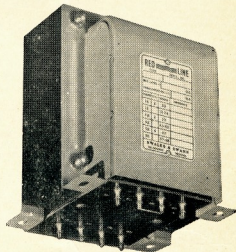
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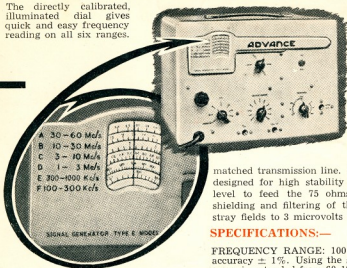
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